

**WHAT IS CLAIMED IS:**

1. An internal combustion engine comprising:
  - a body;
  - a shaft rotatably mounted within said body;
  - a pair of pistons within said body, said pair of pistons attached to and extending from said shaft;
  - a combustion chamber formed in said shaft.
2. The internal combustion engine of claim 1, wherein
  - said body has a centerline;
  - said shaft extending along said body centerline.
3. The internal combustion engine of claim 1, further comprising:
  - a pair of cylinders;
  - said pair of pistons reciprocating within said pair of cylinders;
  - a secondary combustion chamber formed between said pair of cylinders.
4. The internal combustion engine of claim 1, further comprising:
  - an ellipsoid guide in said body;
  - said pair of pistons retained in said ellipsoid guide.
5. An internal combustion engine comprising:
  - a body, said body having an inner surface and an outer surface;
  - a shaft rotatably mounted in said body;
  - an intake port and an exhaust port formed in said body;

a combustion chamber formed in said shaft, said combustion chamber having a bottom wall, a left wall and a right wall.

6. The internal combustion engine of claim 5 further comprising:

a bridge extending upwardly from said combustion bottom wall to said body inner surface.

7. The internal combustion engine of claim 5, further comprising:

a sleeve positioned between said shaft and said body.

8. The internal combustion engine of claim 7 further comprising:

an O-ring between said sleeve and said shaft.

9. An internal combustion engine comprising:

a body having an axis;

a shaft rotatably mounted within said body;

a pair of pistons within said body, said pair of pistons attached to and extending from said shaft;

a single combustion chamber formed in said shaft, said combustion chamber having an axis collinear with said body axis.

10. The internal combustion engine of claim 9, wherein

said body has a centerline;

said shaft extending along said body centerline.

11. The internal combustion engine of claim 9, further comprising:

a pair of cylinders;

said pair of pistons reciprocating within said pair of cylinders;

a secondary combustion chamber formed between said pair of cylinders.

12. The internal combustion engine of claim 9, further comprising:

an ellipsoid guide in said body;

said pair of pistons retained in said ellipsoid guide.